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ABSTRACT

The people responsible for managing school computing resources in Australia have become known as Computing Coordinators. To date there has been no large systematic study of the role, responsibilities and characteristics of this position. This paper represents a first attempt to provide information on the functions and attributes of the Computing Coordinators in New South Wales (Australia) secondary schools. A questionnaire was distributed to Computing Coordinators in 141 (46.8% return) non-governmental secondary schools located in metropolitan Sydney, Australia. Questions were grouped into five sections; the section discussed in this paper focused on information about the nature of the person holding the position of Computing Coordinator, including: personal characteristics; training and qualifications; teaching experience; computing experience; designation; and functions. The study identified 12 trends as representative of the sample. Based on these trends, 5 recommendations were made to promote a more professional perspective to the role of Computing Coordinator. Eleven tables depict survey responses. (Contains 15 references.) (Author/AEF)

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Profiling Computing Coordinators

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The role and responsibilities of the Computing Coordinator in secondary schools is dynamic. Historically, Computing Coordinators have been selected from the teaching ranks of schools. To date there has been no large local, systematic study of the role, responsibilities and characteristics of the Computing Coordinator. Consequently, schools have had to make decisions based heavily on hearsay or anecdote or rely upon information that reflects circumstances based on U.S.A. experience.

This paper represents a first attempt to provide meaningful information on the functions and attributes of Computing Coordinators in NSW secondary schools. Data examining these aspects of the Computing Coordinator position were collected using survey techniques from 66 of 141 targeted non-government secondary schools located in metropolitan Sydney. Computing Coordinators from government secondary schools were not included. The survey was divided into five sections. This generated large amounts of data, of which parts relating specifically to the role, responsibilities and characteristics of the Computing Coordinator are reported here.

Data collected from closed questions were coded and analysed descriptively and inferentially using Microsoft Excel and SPSS for Windows. Data from open questions, where appropriate, were coded and analysed using Microsoft Excel.

The study identified 12 trends as representative of the sample. Based on these, 5 recommendations are made to promote a more professional perspective to the role of Computing Coordinator.

Background

From modest beginnings in the 1980's, N.S.W. secondary schools have gradually embraced computing technology. Schools have invested considerable amounts in hardware and software to meet emerging curriculum trends and ensure the efficient management of clerical and administrative resources. As technology continues to be assimilated, the need to manage evolving computing systems emerges as a priority for schools.

The people responsible for managing school computing resources — student networks and related courses, and possibly administrative networks — have become known as Computing Coordinators. When secondary schools first established the position, they frequently opted, often by default, for the Computing Studies teacher. These teachers were perceived to be experts because they may have had some background, knowledge, experience, or interest in computers.

Unfortunately, the process did not always promote adequately equipped individuals with appropriate qualifications, training, or experience to manage resources efficiently. In most cases, the people had to acquire the necessary skills on the job (Handler, 1990) and many well intentioned decisions were made without accounting for whole school needs (O'Mahony, 1995).

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Once appointments were made, schools to their credit, recognised the need to support Computing Coordinators. N.S.W. government secondary schools for example, commonly budgeted the equivalent of a head teacher's administrative allowance — six forty minute periods per week — to support the management of computing resources. This model received official recognition with the release of Computer Education Program Guidelines and Funding for Classroom Application (1989), which guaranteed funds for three years to support a 240 minute per week staffing entitlement.

Private sector schools, have had to cope with similar problems. Unlike government schools, non government schools (especially the non systemic Catholic schools), have greater flexibility to employ people with particular expertise, especially if a need arises beyond the current capacity of the school. O'Mahony (1995) identified a number of fee paying schools where the position, Computer Services Manager was created to meet new circumstances.

The Computing Coordinator is an established position within N.S.W. secondary schools and all have come to rely upon them heavily. Despite this reliance, there is little local data profiling the position. Information about personal characteristics, experience, qualifications, and the functions performed is scarce. By developing a profile, schools can use the emerging schema to formulate approaches that best meet their needs.

Review of the Literature

A thorough search using the ERIC and AIS databases failed to uncover significant evidence of research focusing on Computing Coordinators in Australian schools. Only one paper containing a role description of a Computer Services Manager in a number of N.S.W. non government schools was located (O'Mahony, 1995).

A search of annual conference papers of professional associations supporting Computers in Education, located occasional references to the position, but none aggregated the personal characteristics, experience, qualifications, and functions performed by Computing Coordinators in N.S.W. or Australia into one study. The Computer Education Coordinator's Kit (1987) developed by the Computer Education Unit of the N.S.W. Department of Education, does outline the responsibilities of the position, but not the characteristics of those in the position.

It is possible to locate some research dedicated to personal characteristics, experience, qualifications, and functions performed by the Computing Coordinator, however, it is not Australian, originating instead, from the United States of America.

The Characteristics of Computing Coordinators

In the mid to late 1980s a number of US studies (Barbour, 1986; McGinty, 1987; Martinez & Mead, 1988) indicated that Computing Coordinators were in general, older and more experienced male teachers. Barbour for example, found that District Coordinators were on average 43 years old, had been teaching for 18 years and using computers for 4 years. School Coordinators were slightly younger (38 years), with proportionately less teaching experience (13 years) but had been using computers for a similar period (4 years).

Most Computing Coordinators have come from Mathematics, Science and Business Studies backgrounds, few having completed degrees in which there was a Computing major (Handler, 1990). Martinez and Mead (1988) established that only 9.5% of Computing Coordinators had an undergraduate major or minor in Computer Science, although 59.8% had completed some post-graduate study in Computing. McGinty (1987) discovered that 80% of Computing Coordinators were Education graduates.

The typical preparation for Computing Coordinators has consisted of self taught knowledge (Handler, 1990) with possibly one or two courses in computer programming (Morsund, 1985). Morsund found that most Computing Coordinators had only modest levels of computer oriented technical knowledge, usually less than that obtained in a Bachelor's degree. According to Martinez and Mead (1988) over one third of Computing Coordinators (35.7%) reported the majority of their computer training occurred within a teacher education program, while others were either self-taught (26.2%), received instruction through inservice (10.2%) or from a TAFE institution (1.5%), or developed understanding through work experience (1.6%).

Similar data is not available for secondary school Computing Coordinators in N.S.W. Woodcock (1992), in a survey of Western Sydney primary and infants teachers' computer training found that 36% had learnt about computer education through on the job training, while 10% had received no formal training. Other categories reported include self taught (19%), college course (16%), and inservice (13%). When discussing future needs teachers identified an increasing role for on the job training (40%), self teaching (28%) and inservice activities (26%).

Responsibilities of Computing Coordinators

The responsibilities of Computing Coordinators vary from school to school. However, throughout the literature there are functions which every Computing Coordinator performs.

Computing Coordinators invariably maintain links with classroom teaching. McGinty (1987) found that 90% of United States school based Computing Coordinators were actively engaged in classroom teaching. Handler (1990) also found that Computing Coordinators were planning curriculum based activities, not only for students but also for teachers in relation to computers, whilst still teaching.

Many different tasks are expected of Computing Coordinators. While there is great variety in what been reported, often the tasks amount to performing similar functions. Typically, coordinators are responsible for a school's hardware and software (Hancock, 1990; Handler, 1990), with more than 70% indicating that maintenance and purchase are prime functions (McGinty, 1987).

Other responsibilities include: mentor to students and role model to teachers (Hancock, 1990); planning and implementing teacher inservice (Handler, 1990: Morsund, 1985; McGinty, 1987; Sanders, 1991; Strudler & Meredith, 1988); technical support for students and faculty (Hancock, 1990; Morsund, 1985; Sanders, 1991; Strudler & Meredith, 1988); systems backup (Morsund, 1985; Sanders, 1991); supervising computer laboratories (Hancock, 1990; Morsund, 1985); strategist to the Administrator and Supervisor, catalyst to overcome teacher resistance, successful promotion of computer use (Hancock, 1990); administration and development of computer programs, keeping up with new developments, working in administrative level activities, planning teacher inservice (Handler, 1990); planning and implementing programs, writing grant proposals (McGinty, 1987) scheduling classes, overall system administration, maintaining contact with sources of information, developing evaluation procedures, budgetary and financial responsibilities, facilitating change (Morsund, 1985); support for day to day operations, and training, data planning, documentation of data management systems, data recovery (Sanders, 1991); resource adding, initiating and facilitating change (Strudler & Meredith, 1988); planning, purchasing, designing, writing, installing, converting procedures, rewriting programs and training (Trotter, 1993).

Method

A questionnaire was developed based on the literature and distributed to Computing Coordinators in 141 non government secondary schools located in metropolitan Sydney. In general, metropolitan Sydney extends from the Pacific Ocean in the east to the foothills of the Blue Mountains in the west, and from Hornsby in the north to Port Hacking in the south. Nine schools were not included in the distribution because they either serviced small student populations (less than 150) or their clientele was very specific eg. the Japanese School.

Questions were grouped into sections. The relevant section for this paper was section D, Computer Administrator / Coordinator Information. This section sought information about the nature of the person holding the position of Computing Coordinator ie. their gender, age, training, qualifications, teaching status, years teaching, years teaching Computing Studies, current teaching load computing experiences, designation, and functions performed.

In Section D a total of 13 questions were asked, a number of which contained two to four parts. This produced a total of 24 responses. Of these responses, 15 were to closed questions containing between two and sixteen possible stems. The remaining 9 responses required a short written answer.

All responses to closed questions were allocated a number code for statistical analysis. For open ended questions, two procedures were used. For those questions where respondents where giving similar answers, the responses were number coded. For those questions where there was little consistency across responses, these were recorded manually and this data then analysed.

Number coded data were entered into an Excel spreadsheet. This was used for descriptive purposes and to generate tabular and graphical information to be reported. The Excel spreadsheet was then converted to SPSS for Windows format for additional statistical analysis.

Results

1. The Schools

Responses were received from 66 (46.8%) of the 141 non government secondary schools sent surveys. By far the largest group to reply were schools affiliated with the Catholic Church (32 schools). Other religious denominations reported were Anglican (9 schools), Uniting (4 schools), Adventist (2 schools), Baptist (2 schools) and Jewish (2 schools). Thirteen schools identified themselves as non denominational or without religious affiliation. Two schools did not respond.

Data provided, enabled schools to be further classified. It was found that 46 schools catered for a single sex (27 for girls, 19 for boys), while 20 were coeducational institutions. The schools operated as day schools (48), as schools catering for both day students and boarders (15) and as boarding schools (1) only. The schools could also be categorised as systemic Catholic schools (centrally administered and operated by individual Catholic dioceses, of which there were 25) or independent schools (essentially high fee paying, traditional grammar-type schools based on the English public school model, of which there were 41).

2. The Computing Coordinator

2.1 Personal Characteristics

Computing Coordinators responding to the survey were overwhelmingly male. In this sample 71.2% of Computing Coordinators were male and only 27.3% female. This might suggest that the position is one not normally occupied by women, despite the high proportion of female teachers in N.S.W. secondary schools. Furthermore, given the response of single sex girls schools (40.9%), affirmative action has not overly impacted upon the position of Computing Coordinator. The figure contrasts markedly with those obtained from the United States. Nearly a decade ago, 48% of school based secondary Computing Coordinators were female (McGinty, 1987).

Gender	No of Schools	Percentage
Female	18	27.30
Male	47	71.20
No Response	1	1.50
Total	66	100.00

Table 1 — Gender of Computing Coordinators

The gender imbalance prompted a question about whether or not there were differences in the work of male and female coordinators. Using data on gender and functions performed, a t-test for independent samples was conducted. A mean difference of 0.1583 with 53 degrees of freedom was calculated, but this was not considered to be significant at the 0.5 level. Based on this result, a null hypothesis cannot be rejected.

The average age of Computing Coordinators in this sample was calculated to be between 30 and 40 years. This figure is similar to information obtained in earlier United States surveys. Barbour (1986) estimated average age to be 43 years, McGinty (1987) 40 years and Martinez and Mead (1988), 39.3 years.

	Age of Computing Coordinators
Average	39.46
St. Dev.	8.63
Median	35.00
Mode	35.00

Table 2 — Computing Coordinator Age

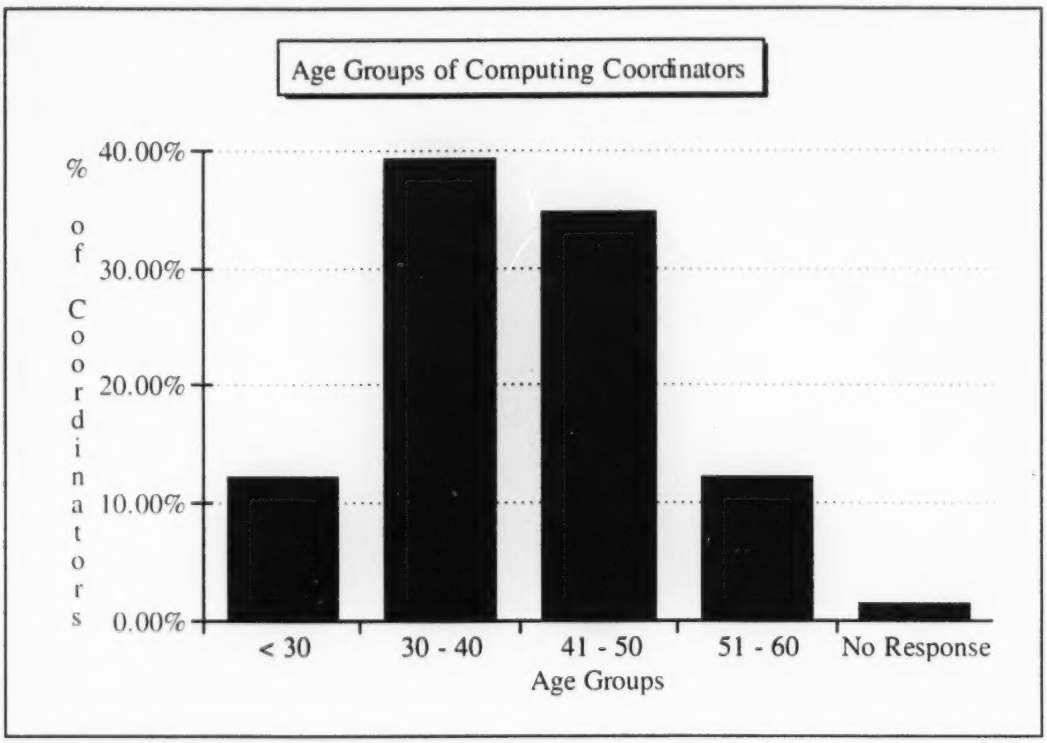

Figure 1 — Age Groups of Computing Coordinators

2.2 Training and Qualifications

A majority of Computing Coordinators (68.2%) indicated they were self taught with respect to computers. In addition, 49.2% indicated they had some tertiary qualification in computing. Less than one in five coordinators (18%) indicated they obtained their training from inservice. A small percentage received their computer training through work experience (7.6%), or TAFE (1.5%). In the United States, by way of contrast, coordinators were more likely to have a tertiary qualification (35.7%) in computing, than to be self taught (26.2%).

Post-secondary qualifications of Computing Coordinators indicates great diversity in the background of these people, with a high percentage holding multiple qualifications. The most frequently reported undergraduate credentials were in Education, Science and Mathematics. In the United States similar findings have been reported. Handler (1990) stated that most Computing Coordinators had Mathematics, Science or Business Studies backgrounds, while in a study of school based coordinators conducted by McGinty (1987), 80% of respondents held a qualification in Education. Interestingly when reported, initial teacher education training (undergraduate degree or diploma) is aggregated it appears that only 47% of Coordinators possess a teaching qualification. While the study used only non government schools, a higher proportion would have been expected, given that only one respondent indicated they were not or had not recently occupied a teaching position!

Training	YES	Percentage	NO	Percentage
Self-taught	45	68.2	21	31.8
Inservice	12	18.2	51	81.8
TAFE	1	1.5	62	98.5
Tertiary	31	49.2	32	50.8
Work Experience	5	7.6	58	92.4
Other	1	1.5	63	98.5

Note: Due to multiple responses percentages add from left to right not top to bottom.

Table 3 — Computing Coordinator Training

			Degree					
Area of	Diploma		Bachelor		Masters		Doctoral	
Qualification	No.	%	No.	%	No.	%	No.	%
Education	17††	25.8	11	16.7	6	9.0	0	0.0
Teaching	3†	3.0	0	0.0	0	0.0	0	0.0
Ed Computing	5††	7.6	0	0.0	5	7.6	0	0.0
Science	1	1.5	15	22.7	5	7.6	1	1.5
Computing	2	3.0	2	3.0	0	0.0	0	0.0
Maths	2	3.0	11	16.7	2	3.0	0	0.0
Arts	0	0.0	4	6.1	1	1.5	0	0.0
Others	10	15.2	7	10.6	2	3.0	0	0.0

† Undergraduate Diploma †† Postgraduate Diploma

Many Coordinators specified more than one qualification (as requested). The percentage shown relates to the total number of coordinators not the total number of responses.

Table 4 — Computing Coordinator Post Secondary Qualifications

Eighteen of the 66 respondents (27.2%) also held a Masters degree or higher, but only five were in Educational Computing. In all, 10 coordinators (15.2%) possessed a postgraduate qualification (diploma or degree) in Educational Computing. This situation contrasts with United States data (Martinez, 1988) in which 59.8% of coordinators had completed postgraduate study in Computer Science.

2.3 Teaching Experience

Table 5 indicates that in addition to the responsibilities of being Computing Coordinator, 92.5% of respondents were also engaged in classroom teaching. A similar statistic (90%) was reported in two separate United States studies (McGinty, 1987; Handler, 1990).

Teaching	No. of Coordinators	Percentage
Yes	61	92.5
No	3	4.5
No Response	2	3.0
TOTAL	66	100.0

Table 5 — Current Teaching Status

Only 3 people reported they were full-time coordinators. One had been seconded from the teaching staff to the full time position, another was re-employed within the same school in the capacity of Systems Administrator, while the third had no teaching background, being employed directly from industry. In addition, two schools reported other people were appointed to technical support positions (one full time the other on the equivalent of $^{1}/_{8}$th teaching load) as support personnel for the Computing Coordinator.

Years Teaching	No of Coordinators	Percentage
< 5	5	7.6
5 - 10	12	18.2
11 - 15	18	27.3
16 - 20	16	24.2
> 20	13	19.7
No Response	2	3.0
TOTAL	66	100.0

Table 6 — Years Teaching

Computing Coordinators who where qualified classroom teachers, had on average, 13.7 years teaching experience. In the United States (McGinty, 1987), Computing Coordinators who were qualified teachers had on average 17 years experience.

Almost all Computing Coordinators (88.9%) have taught some form of Computing Studies for between 1 and 14 years (average 5.4 years), with 63.6% having taught the subject for seven years or less. Data collected in 1987 for the U.S.A. (McGinty, 1987), indicated Computing Coordinators had taught Computer Studies for 5 years. One would suspect a somewhat higher average today.

Response	No of Coordinators	Percentage
Yes	58	87.9
No	7	10.6
No Response	1	1.5
Total	66	100.0

Table 7 — A Computing Studies Teacher

Computing Coordinators were asked how they came to be involved with the Computing Studies syllabuses. Many had expressed an interest (16.7%), some volunteered (15.2%) and a number were asked (13.6%). Other teachers indicated they had applied for the position, retrained, were the most experienced, or 'were in the wrong spot at the wrong time!'

Responses	No of Coordinators	Percentage
Asked	9	13.6
Volunteered	10	15.2
Interested	11	16.7
Most Experienced	5	7.6
Applied	6	9.1
Retrained	2	3.0
University course	3	4.5
No one else available	3	4.5
No Response	17	25.8
TOTAL	66	100.0

Table 8 — Involvement with computer studies

Based on teaching experiences data and, that the first formal N.S.W. syllabus in Computer Studies (Computing Studies Yrs 7 to 10) was introduced in 1987, it would appear most Computer Studies teachers trained, at least initially in other subjects. This statement provides additional support to the earlier statement that most Computing Coordinators have backgrounds in disciplines other than Computing, a position supported by Handler (1990).

2.4 Computing Experience

When asked about computing experiences outside of education, 69.7% of Computing Coordinators responded they had not had any outside experience. A small number had part-time or full time experiences and these ranged from consultancy work to systems engineer to retail sales and management in the computer industry.

Those Computing Coordinators not currently teaching or not qualified to teach, were asked to state their computing experience, however, many teachers also took the opportunity to indicate their experience. Responses are shown in Table 9.

2.5 Designation

When asked about designation, 39.3% responded they occupied a position titled Computing Coordinator. However, 28.7% indicated they either held a number of different titles in relation to their work with computers, had no specific title, role or job description, or their title was not one of those indicated in the survey, eg. Director of Computing, Manager — Information Technology etc. Barbour (1986) found that 21% of respondents in a United States study held the title of Computing Coordinator. Other titles reported in that study included Media Specialist, Educational Systems Administrator and Microcomputer Consultant. As with this study, those appointments fill the role and function of what has become known as the Computing Coordinator, although titled differently.

2.6 Functions

Fifty one Computing Coordinators or 77.3% indicated they received a teaching load reduction for carrying out the responsibilities associated with the position. However, 12 respondents (18.2%) indicated they were expected to manage and administer the school's computer networks in addition to a full time teaching load. For those receiving a teaching reduction, the average was six 40 minute periods — equivalent to the administrative loading for a head teacher. The three full time respondents were omitted from this analysis. Overall, the results are similar to those of McGinty (1987) who found that 90% of Computing Coordinators still held teaching responsibilities, a position supported by Handler (1990).

16 years in Computing	Set up Administrative Network
Involvement in an ANN project	Technical Support
7 years teaching Computing	Worked Honeywell Controls
Bachelor of Computing Science, Teaching Commercial Data Processing at TAFE	5 years hands on system and application at school
Installation of Administrative System	Trained on Deca PDP II from 1978
9 years of slow painful learning	Systems Manager TAFE
Taught Computing Studies courses since 1991	3 years Apple //e, 7 years Macs, 6 years DOS
Taught computers in Engineering at International School	Programming in M Ed course, manipulation of data for statistical packages, teaching
Consulting	Software Developer
IBM Multimedia Project	Repairs
Accounting	PC Trainer
Network Manager	Systems Engineer
Retail Sales & Management	15 years of bits and pieces
1 year at Macquarie University and a course in COBOL at UTS	HSC Marker, 2U syllabus committee, MECSTA committee member
Computer Science — University	Self taught Macintosh, DOS/Windows
Teaching 8 years	Teaching 6 years
Taught Computing Studies 11 years	Post graduate training in Computing
None	Partial completion B Sc Computing
Diploma in 1988, teaching Computing Studies since 1981	MS Word Thesis production, VAX and On-line medical index use

Table 9 — Computing Experiences

In general, Computing Coordinators stated they used more than their allocated time release to manage school computers, with 21.2% stating they used twice the allocation, 19.7% three times the allocation and another 24.2% who used in excess of three time the allocated time release. Handler (1990) reported that in addition to teaching staff and students, part time coordinators have many if not all the same responsibilities as full time coordinators, who find a 40 hour week insufficient. One full time coordinator indicated there were times when it takes up to three times the allocated time to complete all the required tasks. While some might suggest this is a time management issue, it is however indicative of the nature of the role of Computing Coordinator.

Interestingly, only five individuals reported they used only the time allocated or less to fulfil the functions of Computing Coordinator. From conversations with a number of these coordinators, it was established that other factors contributed to their response. For example, one Computing Coordinator had a full time technician to maintain hardware, while another was in a school where there was a full time Manager of Information Systems in addition to a full time technical officer.

Computer Coordinators were asked to identify tasks associated with the position. A list of sixteen tasks was provided along with the opportunity to record additional examples. The tasks and response rates are contained in Table 10.

Task	Yes	Percent	No	Percent
Teaching Students	52	82.5	11	17.5
Administration of Stand Alones	49	77.8	14	22.2
Administration of Student Net	47	74.6	16	25.4
Administration of Teacher Net	32	50.7	31	50.3
Administration of Admin / Clerical Net	27	42.9	36	57.1
Evaluating and Purchase of Hardware	54	85.7	9	14.3
Evaluating and Purchase of Software	57	90.5	6	9.5
Installation of Hardware	51	81.0	12	19.0
Installation of Software	58	92.1	5	7.9
Maintenance and Repair of Equipment	54	85.7	9	14.3
Training of Staff	55	87.3	8	12.7
Technical Support — Teaching Staff	54	85.7	9	14.3
Technical Support — Admin / Clerical	35	55.6	28	44.4
Develop, Implement, Evaluate Policies	56	88.9	7	11.1
Develop, Implement, Evaluate Programs	50	79.4	13	20.6
Supervision of Computer Laboratories	50	79.4	13	20.6
Other	14	22.2		

Table 10 — Functions of the Computing Coordinator

Of the 16 tasks listed, 13 recorded greater than a 70% positive response. Only the administration of the administrative / clerical network scored less than a 50% response. A response rate of 55.6% to the task of providing technical support to administrative and clerical staff would tend to confirm that less than half of the Computing Coordinators support both curriculum and administrative computing needs.

The administration of a teacher network also scored lowly. Only 38 schools (57.6%) reported the existence of a teacher network. When this information is coupled with high responses to the Administration of Stand Alone Computers, Installation of Hardware and Software, Maintenance and Repair and the provision of Technical Support to Staff, it is not surprising that Computing Coordinators spend significantly more time than allocated to the role.

Tasks other than those on the list provided are also completed by coordinators. Examples of other duties include:

Primary School Comp. Coordinator	2
Boarding House Comp. Coordinator	2
Teaching comp. in other subjects	1
Student Elections	1
DUX calculations	1
Programming	1
Computerised Timetable	1
Liaising with Suppliers	1
Negotiating Maintenance Contract	1
Technology planning	1
Adviser	1
Visiting other School Systems	1
Working with Information Manager	1
Everything related to computers	1
GOD	1

Table 11 — Other Functions of Computing Coordinators

Few teachers would call upon a colleague for advice about purchasing a calculator, a pair of running shoes or a power drill, however 87.9% of Computing Coordinators indicated they were regularly called upon outside of normal working hours (59.3% of respondents said more than once a week) to give advice to a member of the school community on the purchase or maintenance of computers. Being a Computing Coordinator brings with it the burden of expert on 'everything to do with computing'.

Trends

A number of trends emerged in the data collected. The trends in part define a broad profile of current Computing Coordinators. They are:

1. The majority of Computing Coordinators are male (71.2%).
2. There is no difference in the range or number of tasks male and female Computing coordinators are expected to complete.
3. The average age (39.4 years) of Computing Coordinators is between 30 — 40 years.
4. The majority of Computing Coordinators (92.5%) retain classroom teaching responsibilities.
5. The majority of Computing Coordinators (51.5%) have taught between 11 — 20 years.
6. The majority of Computing Coordinators have taught Computing Studies (88.9%).
7. Computing Coordinators have taught Computing Studies between 0 — 14 years, averaging 5.4 years.
8. Computing Coordinators have come from Science, Mathematics and Education backgrounds. Very few have formal qualifications in Computer Science.
9. The majority of Computing Coordinators indicate they are self taught with respect to computing. However, some have undertaken formal education in order to increase their qualifications in this area.
10. The majority of Computing Coordinators (69.9%) have no industry experience related to Computing.
11. The majority of Computing Coordinators (77.3%)receive a period reduction to perform their responsibilities.
12. Only 7.6% of Computing Coordinators indicate they use less than or the amount of time allocated for their responsibilities. The remainder, 92.4% use two or more times the allocation given.

Conclusion

Computer education is a much publicised, high profile innovation in schools. It would be safe to assume in 1996 that few schools have not incorporated computing in some form either in the curriculum or for administrative purposes. Despite its diffusion, schools continue to face difficulties supporting computer based innovation. The position of Computing Coordinator is vital to the diffusion process. Without their assistance and enthusiasm many teachers would not be able to successfully integrate computers into the curriculum. In the light of these statements and the information generated by the study the following recommendations are made:

1. More women should be encouraged to become Computing Coordinators, to provide role models for girls and to balance the view of males and females in technology education.
2. Computing Coordinators should negotiate the responsibilities of the position, accountability and administrative time allocation before accepting or reaffirming themselves in the role. Once done, a role statement should be published to ensure that Computing Coordinator time and skills are utilised appropriately.
3. Schools should continue to support Computing Coordinators through teaching load reductions. Schools should explore ways of matching the available allocation to the workload to promote proactive rather than reactive responses.
4. Schools should promote training opportunities for Computing Coordinators to broaden their skill base and to enable them to stay abreast of rapid developments in Computing.
5. Computing Coordinators should be encouraged to broaden their qualification base in both the fields of Computing and Educational Administration.

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